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1. Introduction

GDS Delivery Version: **C6.8.0**   ☐ Initial Delivery ☐ Redelivery   ICA #: 10310

Spacecraft: ☐ MGS   ☒ M98 Orbiter ☒ M98 Lander ☐ Stardust ☐ Other [_____]

Type: ☒ Block Updates **   ☐ Utilities ☐ Command Dictionary
             ☒ Modeling Updates   ☐ Other [_____]

_____

 Notice: Times Below were decided at the Change Board.

Installation Window: _____
Best Times to Install: _____
Freeze Times: _____

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MCR's

 322 - M98/MGS SEQ Orbiter and Lander Blocks

**Block Updates

Updated Orbiter Blocks

moi.blk
moi_init.blk
otm.blk
otm_restrain.blk
pmirr_pwr_on.blk

Updated Lander Blocks

landed_init.blk
sm_landed_dsn_contact.blk
sm_landed_init.blk
tcm.blk
wakeup_no_restore.blk
wakeup_restore.blk

New Lander Blocks

load_switch_off.blk
uhf_trans_day_sci.blk

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2. Delivery Location: **mgcm1:/staging/MSOP/seq**   ☒ **doc/** (directory) ☒ **tarfiles/** (directory)

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3. SEQ Workstations - Installation Instructions: ☒ (See Attached - Directory Listing)

   a) Special Alerts - Before Install

       ☒ Notify S/W Dev: ☒ J. Morris (4-1069) ☒ S. Wissler (4-0153)   &   ☒ SIE on Duty

       Comments:

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b) Install - Tar file: **C6.8.0**-SEQ-**000**-SEQ tar in subdirectory: /msop/seq/

   On: PST workstations

   1) copy the tarfile: **C6.8.0**-SEQ-**000**-SEQ.tar   - to subdirectory: /msop
   2) tar -xvf **C6.8.0**-SEQ-**000**-SEQ.tar
   3) rm **C6.8.0**-SEQ-**000**-SEQ.tar

   Comments:

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c) Notify: ☒ J. Morris (4-1069)   ☒ S. Wissler (4-0153)   ☐ Linda Lee (3-9568),
   when Install is completed.

   1) Software Dev will configure   /msop/seq_data and other areas

      ☐ verify software installed correctly
      ☐ run test cases

   2) Software Dev will Notify: ☒ SIE on Duty   ☒ CM   when configuration is completed.

Special - User's - Alerts - After Install:

   ☒ Log off workstation - then Log back on   (files need to be re-configured)

Comments:

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4. SCT Workstations - Installation Instructions: ☐ (See Attached - Directory Listing)

   a) Special Alerts   - Before Install

      1) copy the tarfile: **C6.8.0**-SEQ-**000**-SEQ.tar   - to subdirectory: /msop
      2) tar -xvf **C6.8.0**-SEQ-**000**-SEQ.tar
      3) rm **C6.8.0**-SEQ-**000**-SEQ.tar

      Comments:

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   b) Install Tar file: **C6.8.0**-SEQ-**000**-SEQ.tar   in /msop/seq

      On: ☒LMA SCT SERVER ☒LMA STL Workstations ☒ SD MSA

      Comments:

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   c) Notify: ☒ J. Morris (4-1069)   ☐ S. Wissler (4-0153)   ☐Linda Lee (3-9568),
      when Install is completed.

      1) Software Dev will configure   /msop/seq_data and other areas

         ☐ verify software installed correctly
         ☐ run test cases

      2) Software Dev will Notify: ☐ ACE   ☐ CM - when configuration is completed.

Special - User's - Alerts - After Install:

☒ Log off workstation - then Log back on   (files need to be re-configured)

Comments:

5.0 SOPC/ER Workstations - Installation Instructions: ☒ (See Attached - Directory Listing)

  a) Special Alerts - Before Install

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  b) Install - PSS software for SOPC/ER in directory: /msop/seq/
       - Tar file: **C6.8.0**-SEQ-**000**-SEQ.tar - On:

     ☒MGS - SOPC Workstations   ☒ MSOP - SOPC Workstations   ☒ M98 - SOPC Workstations

       1) copy the tarfile: **C6.8.0**-SEQ-**000** -SEQ.tar to /msop
       2)   tar -xvf **C6.8.0**-SEQ-**000** -SEQ.tar
       3) rm **C6.8.0**-SEQ-**000** -SEQ.tar

       Comments:

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   c) Notify: ☒ J. Morris (4-1069)   ☐ S. Wissler (4-0153)   ☐Linda Lee (3-9568),
      when Install is completed.

       1) Software Dev will configure   /msop/seq_data and other areas
            ☐ clean-out /engineering
            ☐ verify software installed correctly
            ☐ run test cases

       2) Software Dev will Notify: ☒ J. Glance (3-0630)   ☒ CM -   when configuration is completed.

Special - User's - Alerts - After Install -

    ☒ Log off workstation - then Log back on   (files need to be re-configured)

Comments:

 Notice: In the event there is a problem with a SOPC/ER Workstation install, notify Jesse Glance (3-0630)
          or his Pager # (818) 541-5702

This form will be placed on our homepage, in the following URL: http://mgsw3.jpl.nasa.gov/seq/seq_dev/

Test Report

This is a M98 Orbiter and Lander adaptation delivery and includes the following:

M98 Lander

1) Delivery of two new M98 Lander blocks (refer to K. Nii, "New Blocks", Nov 12, 1998, B. Wahl, "Lander Block Update", Nov 12, 1998, B. Wahl, "Cruise Blocks", Nov 12, 1998 E-Mails)

uhf_trans_day_sci.blk
load_switch_off.blk

Delivery of 5 Updated M98 Lander blocks

landed_init.blk
sm_landed_dsn_contact.blk
sm_landed_init.blk
wakeup_restore.blk
wakeup_no_restore.blk
tcm.blk

2) An update to the modeling to track the executing of flight software (fsw.smf)

3) Updates to the telecom downlinking model (telecom.smf and fsw.smf)

3) Updates to the model file (mech.smf) and the M98 Lander context variable file (cvf) to check flight rule 0005-A-AACS

4) Updates to improve the AACS modeling (use common aacs subroutines)

M98 Orbiter

1) Re-delivery of five M98 Orbiter blocks (refer to W. Sidney, "MCO TCM, MOI, and OTM block upates", Nov 4, 1998, "Updated Global Variables for MCO", Nov 5, 1998, "MCO PMIRR Pwr On block update", Nov 9, 1998 E-Mails)

moi.blk
moi_init.blk
otm.blk
otm_restrain.blk
pmirr_pwr_on.blk

2) An update to M98 Orbiter context variable file due to moi and moi_init block updates (additional global variables)

3) Updates to the telecom downlinking model (telecom.smf and fsw.smf)

4) Updates to improve the AACS modeling (use common aacs subroutines)

5) An update to m98O.init.smf set an intial condititon

Verification of Delivery on mseqdev:

1) All Orbiter and Lander block test cases have been run. The sequence products have been quickly reviewed and the differences (from compares of the PEFs) are due to block changes.

2) Ran Lander flight rule regression tests on the current delivery and encountered an unexplained error message relating to power modeling. The message is as folows:

Error In read_op_input Function.
Unknown : Missing Debug Flag in /msop/seq_data/lander_power_model/lander_power_model.op.

Research showed function read_op_input comes from the lander power model source code (read_land_op_input.c)

The code in read_land_op_input.c checks if "Debug_Flag" is used. This flag was not defined in /msop/seq_data/lander_power_model/lander_power_model.op file. A newer version of this file defines "Debug_Flag". This file, lander_power_model.op file, can be thought of as a data file which defines variables and locations of other files that the power model references. To remove this error message, the development test machine and all other machines that will run lander sequences will need the most recent version of this fileand other power model data files. The data files on the development test machine (mdevseq) have a date of Feb 1998. The most recent version of the power model data files should be dated September.

  The Orbiter and Lander regression flight rule tests have not been re-run because of the above error message. Once more current data files are loaded on the development test machine, the test cases will be run and the results reported at a later date.

Directory Listing: C6.8.0-SEQ-000-SEQ.tar

```
    0 Nov 12 22:08 1998 seq/
      0 Nov 12 22:10 1998 seq/cvf/
 19211 Nov 12 00:11 1998 seq/cvf/M98.orbiter.A19.cvf
 23095 Nov 11 00:25 1998 seq/cvf/M98.lander.A21.cvf
  3964 Nov 11 17:59 1998 seq/cvf/msop.soe.cvf
      0 Nov 17 17:40 1998 seq/bin/
  1773 Nov 17 17:38 1998 seq/bin/mpl-seq-adapt-setup
  1661 Nov 16 23:05 1998 seq/bin/mco-seq-adapt-setup
      0 Nov 16 23:40 1998 seq/satf/
381501 Nov 16 23:23 1998 seq/satf/M98.lander.B45.satf
234611 Nov 16 21:51 1998 seq/satf/M98.orbiter.B47.satf
      0 Nov 16 23:04 1998 seq/smf/
318053 Nov 13 18:58 1998 seq/smf/M98.orbiter.8.1.0b.smf
438054 Nov 12 21:41 1998 seq/smf/M98.lander.8.0.0b.smf
      0 Nov 12 22:08 1998 seq/fmrf/
 15620 Nov 12 21:41 1998 seq/fmrf/M98.lander.A10.fmrf
```